

Paso Robles Groundwater Basin

Interim Water Guidelines for Discretionary Projects

The Board of Supervisors adopted the Paso Robles Resource Capacity Study¹ in February 2011 and certified a Level of Severity (LOS) III for the main basin and an LOS I for the Atascadero Sub basin.² The actions to be taken in response to the LOS III (and applicable only to the main basin) are:

- Prohibit rural subdivisions
- Discretionary develop to offset net groundwater pumping with non-ag water
- Implement Best Management Practices for new wineries
- Establish Best Management Practices for all discretionary uses in the main basin
- Develop a special landscape ordinance for all development in the basin (including the sub basin).

The Board of Supervisors has authorized the Department to move ahead on the changes to Title 21 (Real Property Division Ordinance) and Title 22 (land Use Ordinance) necessary to implement these actions. In the interim time before these ordinances are adopted, the following should act as consistent guidance on water use issues. Each discretionary application in the groundwater basin area will be subject to these interim guidelines.

New Uses to be Designed to be as Water Efficient as Possible

Whatever the new use, there are standard design and operations parameters that all uses should follow to minimize water use. Remember, the less water it uses, the less groundwater the new use has to offset. In other words, if the pumping for the new use is 5 AFY, that is the amount of water that must be offset by such activities as plumbing retrofits, lot retirements, funding new water sources elsewhere in the basin or water conservation programs in the basin.

If the new use can, through efficiency measures, reduce the new water use to 2 AFY, then that is the amount of new net pumping that must be offset.. This first step is a key to water efficiency.

Example 1 – Bed and Breakfast - A 4 bedroom B&B with landscaping and kitchen

Indoor Water Use: Recommended Water-saving Measures

¹ The information in an RCS is taken from published reports and studies conducted by hydrogeologists, engineers and other water professionals.

² A fault line (Rinconada Fault) creates a barrier between the main Paso Robles basin and the smaller Atascadero sub basin.

- 1.1 gpf toilets or dual flush³
- 0.5 to 1.5 gpm showerheads
- “Water sense” appliances⁴
- Instant hot water
- Hot water circulation
- Hot water diversion
- Front load washers
- Compost instead of garbage disposal
- 1.0 gpm faucet aerators

Outdoor Water Use: Recommended Water-saving Measures

- Low water using landscape or xeriscape
- No turf
- Smart irrigation controllers
- Grey water (pre-plumbed)
- Cisterns/rainwater catchments
- LID/recharge
- Landscape maintenance (mulch, etc...)
- Ongoing operation and maintenance activities
- Recycle ornamental water

Example 2 – Winery with special events, kitchen and landscaping

Indoor Water Use: Recommended Water-saving Measures

- 1.1 gpf toilets or dual flush
- 0.5 to 1.5 gpm showerheads
- “Water sense” appliances
- Instant hot water
- Hot water circulation
- Hot water diversion
- Front load washers
- Compost instead of garbage disposal
- 1.0 gpm faucet aerators

³ As an alternative, use dual flush toilets.

⁴ Water Sense appliances are rated by the US EPA.

Special Winery Best Management Practices

Conduct a Water Audit:

Water usage should be measured and tracked annually through a Water Audit to increase the potential for saving water by identifying areas where water is wasted or could be reused. The following steps should be used as a general guide to conducting a water audit.

- Identify the major water lines. Determine the quality, quantity, and temperature of water carried by each line.
- Identify all points where water is used, including hose connections. Determine the quantity of water used at each point.
- Determine the capacity and frequency of emptying for each water-containing unit.
- Determine the capacity of each continuous discharge not yet being reused.
- Determine flow rates in floor gutters and whether the flows are adequate to prevent accumulation of solids.
- Review water use in visitor-serving areas (restrooms, kitchen, and outdoor paved areas).

Results of the audit should be used to make decisions on maintenance, capital improvements and employee training.

Employee Training:

Employees, managers, and operators should be encouraged to practice good water conserving measures and taught the importance of water conservation from a resource and business standpoint. Feedback on performance (i.e. monthly water usage) needs to be shared and discussed regularly.

Winemaking Operations:

Water conserving measures should be used for activities during the winemaking process including crush operations, press, tank, and barrel washing and barrel soaking. These measures should include, but not be limited to: a) conducting crush and press activities outside and covered wherever feasible to reduce “baking” of waste material on equipment surface; b) pre-cleaning with appropriate tools (e.g. a stiff brush or squeegee) should occur to loosen and remove large material before wash-down; c) use of a timing system, shut-off valve and/or hot water on high pressure washers or hoses for cleaning processing equipment, tanks, floors, etc. should be installed wherever feasible; d) wash down and barrel soaking is conducted with knowledge of wastewater or septic system capacity.

Written Procedures:

All written winery procedures should have water conservation elements included with specifics spelled out for rinse times, wash down, water conserving measures, etc.

Landscape:

- a) Landscaping is drip-irrigated from recycled water, whenever feasible, and has a smart irrigation controller; b) Irrigation lines are checked monthly for leaks, as well as defective emitters and sprinkler heads; c) all of the landscaping utilizes drought-tolerant plants or xeriscape; d) Mulch or compost is applied once a year; e) Turf is removed.

Calculating Water Use

Once a project is designed with all water conservation practices, an estimate of yearly water use is needed. The amount of water used will be in AFY and will reflect “net pumping” or groundwater pumping minus the return flow from a septic system or urban wastewater system. Water use estimates shall be sufficiently conservative to assure that estimated water use is **NOT** undervalued and net pumping is truly offset.

Calculating water demand for a particular use is often more art form than science. Two methods of calculating water demand are:

- Using a pre-prepared table of land uses and estimated water demand (e.g. City of SLO, Cayucos CSA or other applicable demand table).
- Calculating per unit water demand for the specific use if there is adequate information available (e.g. a bed and breakfast’s capacity, occupancy rate, outdoor water use estimates per 1000’s sq ft of landscaping, etc...)

Most projects should be able to use the first method pretty easily. The second method will take expertise and should be prepared by an engineer, hydrogeologist or architect.

The land use permit application should include estimates of water demand and amount of groundwater to be offset, prepared by a professional when applicable.

Calculating “Net” Groundwater Pumping

A certain amount of the groundwater pumped to the surface and used in a house or commercial building will be returned to the groundwater basin through a septic system and leach field. The Paso Robles Groundwater Basin Water Balance Review and Update (by Fugro) determined approximately half the water pumped from the groundwater basin and used by a rural residence is returned to the basin. This amount of water (pumped – return flow) is referred to as “net pumping”. Once net groundwater

pumping for a new use is estimated, an offset program can be developed to offset 100% of the net increase in groundwater pumping with non-ag water⁵.

Developing Offsets

Until an ordinance is in place that specifically lays out offset programs, the following interim guidelines should be used. The offset program for a new use can mix direct offsets such as residential and commercial plumbing retrofits, lot retirements, funding of new water sources and/or water conservation programs with softer approaches such as conservation program development and fair share program funding.

Plumbing Retrofits: Most urban areas in the county have already undergone a plumbing retrofit program. This water conservation program replaces the toilets, showerheads and sometimes sinks aerators in residences and businesses to fixtures that use less water. Water suppliers will usually subsidize this program through the rate structure.

Flush volumes have changed over the years. Older toilets used much more water than newer toilets starting in the 1980's. Retrofitting 6.0 gpf toilets with 1.28, 1.1 gpf or dual flush toilets can save up to 40 gallons per day. Less water is saved if the toilets are 3.5 gpf.

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|-----------------|-----------------------------|
| Prior to 1980 – | 6.0 gallons per flush (gpf) |
| 1980 – 1992 – | 3.5 gpf |
| 1992 – 2012 – | 1.6 gpf |
| 2012 - | 1.28 gpf |

Showerheads are generally rated at 2.5 or 5.0 gallons per minute (gpm). Retrofitting 5.0 gpm or 2.5 gpm showerheads with 1.5 gpm (or even 0.5 gpm) showerheads can more than 25 gallons per day.

Lot Retirements: There are thousands of vacant parcels in the groundwater basin that can be developed. Retiring the development potential of vacant lots could save up to 1.7 acre feet per year (AFY) per retired lot. Currently, hundreds of old subdivided lots existing east of Paso Robles that are 1.0 to 2.0 acres in size.

New Water Source: In limited applications, it may be appropriate to import additional supplemental water into an urban area to offset new rural pumping. In other words, one of the existing Nacimiento project contractors could take additional water in return for not pumping an equal amount of groundwater. This is a 1:1 offset.

⁵ Non-ag water refers to groundwater that has been used for an agricultural use. There is a prohibition on using groundwater that was used for agriculture to offset new groundwater pumping.

Water Conservation Project: There are specific water conservation projects going on in the basin that can be funded. Urban area water providers (e.g. City of Paso Robles; Atascadero Mutual Water Co.) plan water conservation programs such as changes to parks or median landscaping. These programs will save water but require funding. Individual or several discretionary rural projects can jointly fund these programs.

Rural Water Conservation Program: One of the actions adopted by the Board of Supervisors was a rural water conservation program. Most of the county's urban areas already participate in a water supplier driven conservation program (e.g. toilet retrofits, education). Agricultural uses, including vineyards and wineries, have developed and implemented far ranging water conservation programs in the North County. The rural area is the only groundwater pumping sector that has not addressed water conservation on a wide basis.

A fund needs to be established to implement an ongoing public outreach and education program and a conservation subsidy program similar to programs in urban areas of the county. The program needs to be designed, costs estimated and a fair share funding formula established.

Timing

All water use information should be part of the initial land use permit application. Water demand calculations should be provided by a professional trained or with extensive experience in water conservation. The application can be accepted once water demand calculations are accepted.

Water conservation measures shall be design into the project whenever possible. Operational requirements will be established as conditions of approval of the project. Groundwater pumping offsets will be finalized either at issuance of a building per mit or at time of final inspection.